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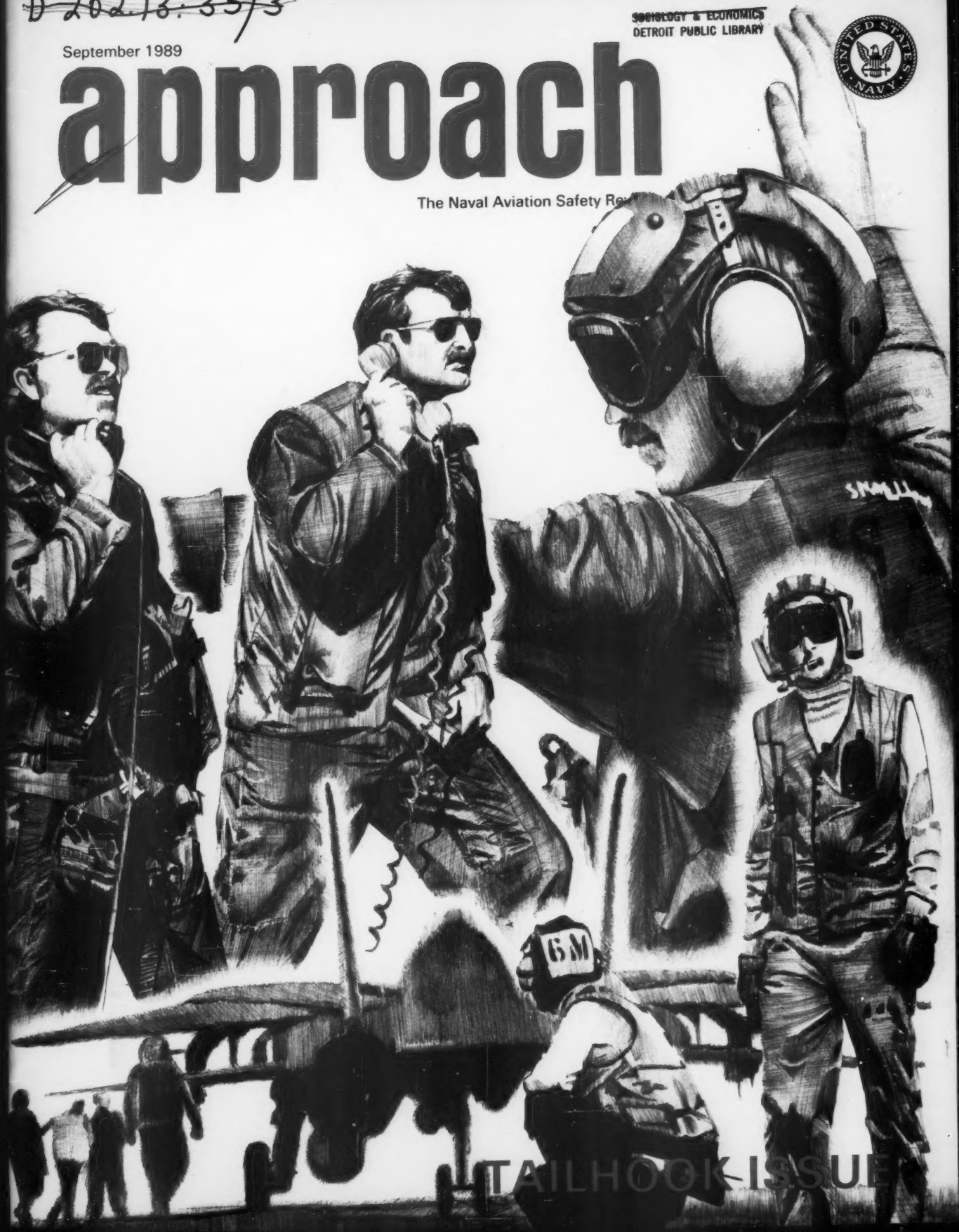
approach

The Naval Aviation Safety Re



TAILHOOK ISSUE

Editor's note: While going through the approach archives, I stumbled across this piece. It was written by then-Lt. David P. Laskey and originally appeared in the July 1977 issue.

NONSTANDARD LSO TERMINOLOGY

The following is a list of frequently used calls employed by LSOs. Realizing that understanding these calls is most difficult, we have prepared the list below so you will know what the LSO is *really* trying to tell you:

WHAT HE SEZ:	WHAT HE'D LIKE TO SAY:
"Roger ball."	OK, turkey show me your best stuff. See if you can improve on your ramp strike last time out.
"Lookin' good."	This is actually a UHF check in preparation for power. . .power . . .POWER!
"Easy with it."	It's not necessary to move the throttle to the detent or the firewall on *each* correction.
"Just a little underpowered."	I hope you're ready for the rapid relight procedures.
"Don't go low."	You can't log a water landing unless you have pontoons.
"There you go."	You're still FUBAR, but now you're at least within limits.
"Get it up there now."	Tell me on deck if that was a valid functional check of the red cell.
"Hold what you've got."	We lost the bubble for just a moment here. Don't worry; you're in no danger yet!
"Nice and easy now."	Try to be smooth, you hamburger. I remember your last pass, and you started coming down like garbage off the fantail.
"Fly the ball."	OK, you're cleared to land. Stop counting the crossdeck pendants.

inside approach

Vol. 35 No. 3

Various CV scenes by Peter Marshall Lane. For more information on his artwork contact Mr. Lane at: 5960 Hemlock Lane, North Plymouth, Minnesota 55442; (612) 557-0270.

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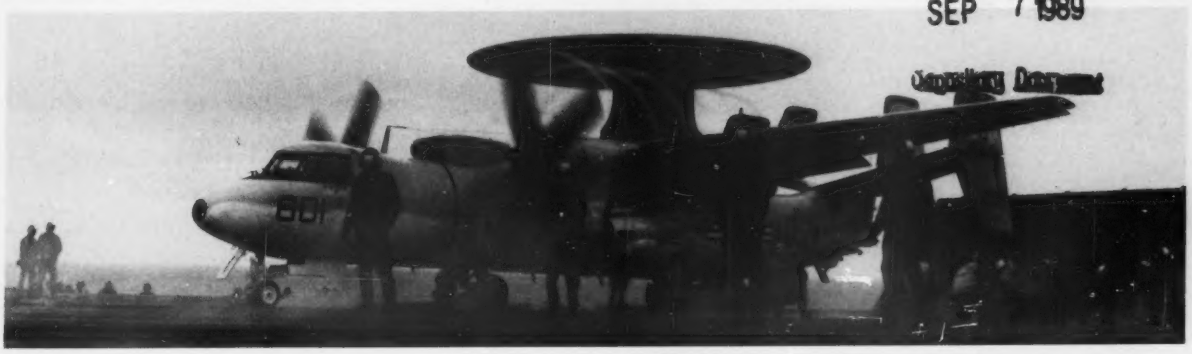

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LSO

Results of our study show a definite correlation between aircraft flying qualities and pilot landing performance.

When All Else Fails, Blame the ADB

By Lt. R.A. Sturgell and Lt. J. Easterbrooks

DO you have a "smooth flyer"? Or do you have a "poor flying" jet? Recently we studied aircraft performance in addition to aircrew performance and learned that there is a direct correlation between the two.

We compiled statistics from a WESTPAC cruise. We reviewed the ADB (Aircraft Discrepancy Book) to document flying quality discrepancies during landings. We then compared these with the pilot's landing performance. Aircraft discrepancies and piloting grades are summarized in Tables I-IV. We learned the following:

Table I
Overall Landing Analysis
Six-month Deployment

A/C	OK	OK	(OK)	B>	—	WO	C>	Avg./# Passes
100	0%	53.62	31.88	1.45	10.15	2.90	0%	3.37/ 69
101	0%	55.37	31.07	6.78	5.65	1.13	0%	3.44/ 177
102	0%	47.22	38.89	2.08	11.81	0%	0%	3.34/144
103	0%	54.83	41.94	0%	3.23	0%	0%	3.51/ 31
104	0%	42.24	37.93	7.76	12.07	0%	0%	3.26/ 116
105	0%	45.45	39.77	5.68	6.83	2.27	0%	3.33/ 88
106	0%	47.31	34.73	4.79	10.17	2.40	0.60	3.28/ 167
107	0%	46.43	37.14	6.43	9.29	0.71	0%	3.33/ 140
112	0%	45.45	37.88	6.06	10.61	0%	0%	3.32/ 66
113	0.93	43.93	42.06	2.80	9.35	0.93	0%	3.33/ 107
114	0%	56.10	33.33	3.25	6.51	0.81	0%	3.46/ 123

Notes:
1) 101: Most used aircraft. Good flyer. Third highest overall average.
2) 103: Highest overall average, yet lowest number of passes. Down a lot.
3) 104: Lowest overall average. Most bolters. No-grades.
4) 113: Most OKs.
5) 114: Highest overall average. Most OKs.

Table II

Day Landing Analysis
Six-month Deployment

A/C	OK	OK	(OK)	B>	—	WO	C>	Avg./# Passes
100	0%	56.25	29.17	2.08	10.42	2.08	0%	3.41/ 48
101	0%	56.64	30.09	3.54	7.96	1.77	0%	3.43/ 113
102	0%	51.69	38.20	1.12	8.99	0%	0%	3.42/ 89
103	0%	55.00	40.00	0%	5.00	0%	0%	3.50/ 20
104	0%	40.28	40.28	6.94	12.50	0%	0%	3.21/ 72
105	0%	51.72	36.21	3.45	8.62	0%	0%	3.40/ 58
106	0%	47.27	31.82	6.36	10.91	2.73	0.90	3.25/ 110
107	0%	45.45	42.05	2.27	9.09	1.14	0%	3.33/ 88
112	0%	42.86	42.86	2.38	11.90	0%	0%	3.30/ 42
113	1.35	45.96	37.84	2.70	10.81	1.34	0%	3.34/ 74
114	0%	61.90	28.57	1.19	8.34	0%	0%	3.53/ 84

Notes:
1) 101: Most used aircraft.
2) 103: Least used aircraft.
3) 104: Lowest daytime average. Most bolters. No-grades daytime.
4) 114: Highest daytime average. Most OKs by 5 percent.

Table III

Night Landing Analysis
Six-month Deployment

A/C	OK	OK	(OK)	B>	—	WO	C>	Avg./# Passes
100	0%	47.62	38.10	0%	9.52	4.76	0%	3.28/ 21
101	0%	53.13	32.81	12.50	1.56	0%	0%	3.45/ 64
102	0%	40.00	40.00	3.64	16.36	0%	0%	3.22/ 55
103	0%	54.55	45.46	0%	0%	0%	0%	3.55/ 11
104	0%	45.45	34.10	9.09	11.36	0%	0%	3.30/ 44
105	0%	33.33	46.67	10.00	3.33	6.67	0%	3.12/ 30
106	0%	47.37	40.35	1.75	8.78	1.75	0%	3.34/ 57
107	0%	48.08	28.85	13.45	9.62	0%	0%	3.32/ 52
112	0%	50.00	29.17	12.50	8.33	0%	0%	3.35/ 24
113	0%	39.40	51.52	3.03	6.05	0%	0%	3.32/ 33
114	0%	43.59	43.59	7.70	2.56	2.56	0%	3.32/ 39

Notes:
1) 101: Most used aircraft. Highest overall average.
2) 102: Most no-grades by 5 percent.
3) 103: Least used aircraft. Overall highest night average. Highest percent of OKs.
4) 105: Lowest night average.
5) 107: Most night bolters.
6) 113: Most night OKs.

Table IV
Pilot Subjective Comments
Six-month Deployment

Aircraft	Pilot Comments
100	Bent. Poor trimmability.
101	Smooth flyer.
102	Truck. Stiff stick.
103	Smooth flyer.
104	AOA problem. Flies slow and cocked up.
105	Stiff throttles.
106	No particular comments.
107	Stiff throttles.
112	No particular comments.
113	Stiff stick (pitch).
114	Smooth flyer.

• The aircraft with the lowest day average of the pilot's landing performance and the lowest overall average (No. 104) had repeated discrepancies with angle of attack and airspeed throughout the deployment.

• The aircraft with the lowest night average (No. 105) was known for extremely stiff throttles, despite repeated attempts by maintenance personnel to correct the problem.

• The aircraft with the highest percentage of night bolters and second lowest night average (No. 102) was called "the truck" because of stiffness of its stick in pitch (high apparent longitudinal static stability).

• The aircraft with the third lowest night average (No. 100) appeared "bent." To trim the Tomcat, the pilots required continuous lateral and directional (rudder) trim changes in the landing configuration.

• The three aircraft with the highest overall averages (Nos. 101, 103, 114) were known as the pilots' "favorite jets." They had smooth, pleasant flying characteristics and, as the statistics show, good landing performances. We discussed the findings of the study with maintenance control personnel and work center supervisors. We emphasized the importance of gripes, such as "throttle too stiff" or "stick stiff in pitch." We requested maintenance actions to correct discrepancies that prevented the aircraft from being a "smooth flyer."

Logically, the next step would be an analysis of the aircraft's landing performance and flying quality discrepancies during the next at-sea period. Unfortunately, a carrier-based squadron has a high turnover rate of its aircraft during a turnaround cycle. However, we pressed on with our program and compiled statistics during our first at-sea period in the turnaround cycle (a three-week deployment).

The data showed once again that the top three aircraft were regarded as "smooth flyers" and were favored by the pilots. When comparing the jets used on both the six-month and three-week deployments, we found that aircraft No. 114, which finished second overall in the six-month deployment, had now developed a lateral trim problem. This resulted in No. 114 finishing with the second lowest average for the three-week deployment. Aircraft No. 113, which finished as a slightly below average jet, retained its stiff-stick problem and finished five out of eight for the three-week deployment.

Results of our study show a definite correlation between aircraft flying qualities and pilot landing performance. Once a maintenance department gets all the airplanes in an up status, it can't afford to throttle back. Rather, it must fine-tune the flying qualities of each aircraft. The result will be an improvement in the squadron's pilot landing performance and a probable improvement in the tactical areas as well.

Place an increased emphasis on improving individual aircraft. Brief your maintenance personnel on the importance of the aircrew's perception of a smooth and poor flying jet. Make a distinction between downing gripes and the flying-quality gripes. Identify those aircraft with the best carrier-landing performance and compare their applicable flying quality gripes. As your squadron improves the overall flying qualities of your jets, you will see a corresponding increase in overall performance — whether it be in gunnery, bombing or carrier-landing performance. ◄

Lt. Sturgell and Lt. Easterbrooks are wing-qualified LSOs with CVW-15 aboard USS *Carl Vinson* (CVN-70). They are assigned to VF-51, an F-14 squadron based at NAS Miramar, Calif.

Could you handle this emergency at night with no horizon?

No Flap?

By LCdr. John Winkler

? No Trap!

"STRIKE, Sawbuck 703 on guard."

It was another beautiful Indian Ocean day. A few puffy white clouds laced the skies with a crisp, clearly defined horizon and unlimited visibility.

"Strike, Sawbuck 703 calling on guard."

Where are those guys anyway? Is the Boss listening? Is this PRC-90 working?

"Tower, Sawbuck 703 on guard."

The impossible had happened: dual generator failure off the cat and an auxiliary power unit (APU) that we could not get on line.

"Sawbuck 703, Loosefoot 614. I will relay your message to the Boss." Finally, communications a la PRC-90.

We were the first launch in the early afternoon, a three-hour SSC/ESM flight while the battle group transited the Straits of Malacca to Diego Garcia. We were conducting blue water operations with a 1,100-miles bingo to the "Footprint of Freedom."

At the end of the stroke, the No. 2 generator dropped off line and would not reset. Thirty seconds later, the No. 1 generator dropped off line, and wouldn't reset either. We went through the emergency procedures. After eight years of flying I'd never had a complete electrical failure. I was glad it didn't happen at night or in the middle of tracking a sub. We finally established communications and were cleared to recover one cycle early.

Our aircraft base weight was 30,000 pounds. On top of that we had 6,000 pounds of external stores, including sonobuoys, and 3,000 pounds of fuel (if we dumped all the gas we could). We would still be well above the 34,000-pound maximum trap weight for an S-3A without flaps. With no electricity, we had no flaps, no instruments other than pressure instruments, and we were unable to jettison any external stores. After 40 minutes of flying without electrical power, and while we were devising alternatives for the Boss, we got the APU on line and completed an uneventful, OK-3 recovery. Postflight inspection revealed a thermal disconnect of the integrated drive generator due to lack of cooling air over both units while on deck.

We learned several lessons and asked more questions.

— PRC-90 communication was heard as far as 90 miles by other airborne squadron aircraft, and the PRC-90 battery lasted for more than one hour until we recovered. That was a confidence builder after we had heard so many bad things about our emergency radio.

— Emergency jettison is not available without electrical power. In actual blue water operations, what would you do to get down to proper landing weight with no trailing edge flaps?

— Could you handle this emergency at night with no horizon? What would you do in instrument conditions with only a standby gyro advertised to operate for nine minutes? (Tanker posit?)

— Can the landing gear be raised with APU electrical power in case the Boss says, "Sawbuck 703, your signal, clean up and bingo to Diego Garcia"?

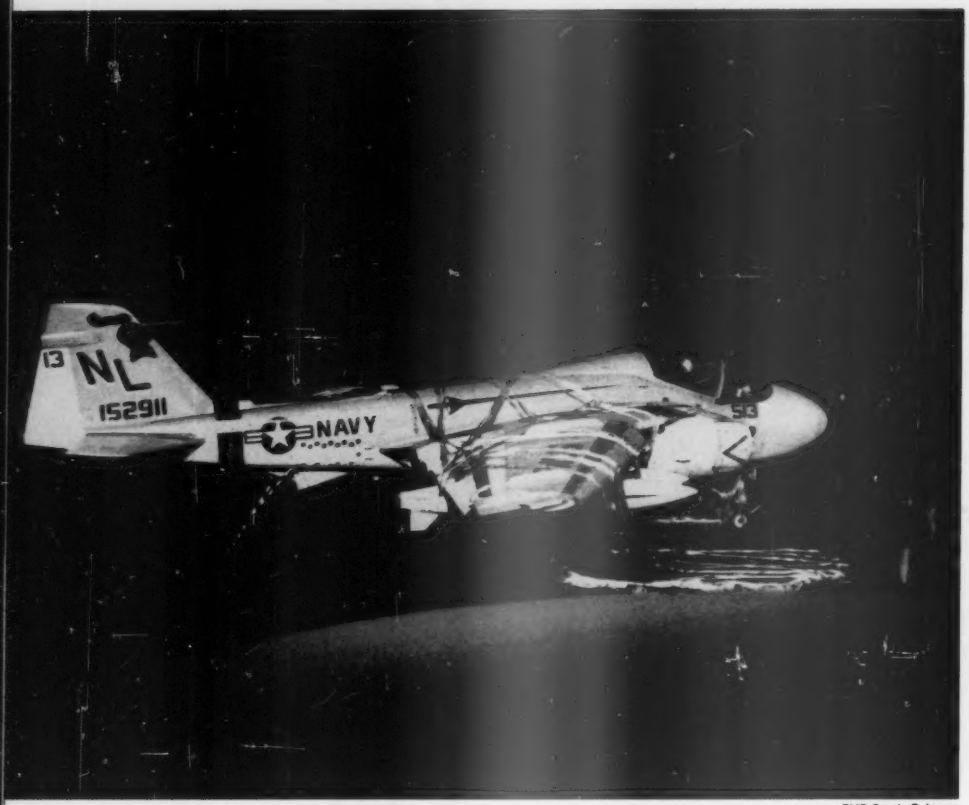
— How well do you know your survival equipment? Can you connect your PRC-90 to the attached earphone and hear through the earplug? At night? Try doing this without removing your helmet. Hint: The ICS jack that comes with the PRC-90 is not compatible with the S-3's ICS. It won't fit no matter how hard you try.

In summary, the time to learn NATOPS is *not* during the emergency. The easy "It just couldn't happen to me" syndrome is not for Naval Aviators and aircrew. ◄

LCdr. Winkler is the training officer for VS-37.

Rig the Barricade!

By Capt. R.E. McNally, USMCR



PH3 Curtis F. Laws

WE were conducting blue water operations when the weather suddenly changed from severe to downright hideous. My B/N finally found his voice.

"405, Intruder, ball." There had been an agonizing instant of hesitation when he keyed the mike to make the call at three-quarters of a mile. In front of us was not the normal nighttime flight deck but an inclined wall of solid metal. We were in the final stages of a night MOVLAS approach, and either something was wrong with our television set or the sea state was straight from hell.

Seconds later, we careened off the front of the angle deck in a spectacular shower of sparks. On our bolter, a sudden deck excursion had completely sheared the right main wheel from our A-6E. Instinctively, I applied left stick to counter the plane's right-hand swerve, and I maintained control of the aircraft during the unusual go-around. Once we were airborne again, we turned downwind while an EA-6B joined on us to visually check our right main mount. Until this point, we didn't know anything was wrong with the plane. As the Prowler gave CATCC the bad news about our wheel, however, the full impact of our predicament hit me.

We were in a jam. Our CATCC rep was concerned about a possible hydraulic leak from the damaged main mount. He instructed us to blow the landing gear down, raise our gear handle, and then reisolate the flight control hydraulic system from the combined hydraulic system. This procedure ensured that even if we did have a hydraulic leak, hydraulic pressure to our flight control surfaces would be maintained. We also would have to keep our flaps and slats down since we did not know if

they had been damaged as we boltered. (The postflight inspection revealed sizeable dents on the underside of the right wing and flap where our right wheel had smacked us as it separated from the mount.) The situation required us to remain dirty at a time when no dirty bingo option was available.

The weather, which had not been forecast, represented a crisis, not only to us, but to the entire air wing. Heavy seas were producing 40-foot to 50-foot deck cycles and occasionally, 60-foot cycles, with 10 feet to 15 feet of vertical pitching. During a recovery that would span three hours, only 17 of the wing's 40 approaches resulted in traps. Eight approaches were wave-offs, and 15 were bolters. The situation continued to deteriorate as the sea state worsened. Right after our bolter, an F-14 blew both main tires on touchdown. The noose was getting tighter, and without the right decisions, superior skill and a supreme effort from everyone, airplanes were going to be lost tonight.

With many aircraft yet to recover, the carrier was not ready to foul the deck with a barricade engagement. Before my B/N and I would get a chance at the barricade, we would have to participate in an elaborate tanking plan. Our role in the tanking procedures would be made more difficult by our dirty configuration. First, the increased drag had already robbed us of precious fuel. Second, with the flaps and slats down, our A-6 would have extended throw of the horizontal stabilizer, making it much easier to overcontrol during tanking. No one I knew had ever talked about — much less practiced — tanking while dirty. My heart pounded as our fuel state rapidly dropped to a critical level. I needed to find the tanker, and quickly, but we couldn't see each other. I knew we were running out of time. Finally, we spotted the tanker passing in and out of the clouds at 4,000 feet. I kept him padlocked and rendezvoused while my B/N scanned our instruments.

In an emergency, the aircrew have a lot on their minds. Sometimes others, like the CATTC rep and the tanker pilot have to assist by doing some quick thinking for the overtaxed aviators.

As we joined up, I heard the air boss pointedly direct the SAR helo.

"Your only mission is starboard delta. Starboard delta!"

"Man, I wonder who *that's* for?" I asked myself facetiously. Since the prospects for surviving an ejection on a night like this were not good, it seemed to me our only option was to take the barricade.

Because of our low fuel state, the tanker wisely dispensed with normal procedures, extending his drogue and clearing us in before we even got there. Only then did I realize that because our landing gear was extended, we would not have a refueling probe light. To remedy the situation, my B/N shined his white flashlight on the probe with limited success. Somehow, we got in the basket on the second try, but the flow stopped after only two gallons.

The tanker pilot reasoned that he wasn't going fast enough for his buddy store to operate properly, and he told us to back out while he accelerated to 200 KIAS and recycled the hose. We received good flow the second time, but unfortunately, we were burning fuel nearly as fast as we could take it. Though we sucked two tankers dry in the process, our high fuel flow at 200 KIAS dirty made it take forever.

The second tanker had no lights in the basket and no lights on the rear of his plane. Things were definitely conspiring against us. What a picture: my B/N with his little flashlight providing the only source of light as I lunged for the basket in the darkness. By the time we finished tanking, my mouth felt like the Sahara Desert.

Next, we set up for the night barricade engagement on our carrier's heaving deck. This was it. Without operable ACLS or ILS needles, my B/N aided me with a self contained CCA. After the "cut" call from the LSO, our main mounts hit the deck, and the LSO called for me to drop the nose so that our refueling probe would clear the barricade. As I made this last-second control input, we slammed into the barricade and were wrestled to a stop. My B/N and I had combined to make a 5.0 barricade arrestment with no injuries. We were helped in this effort by one of the best LSOs in the business.

That night, eight aircraft, including three alert tankers, had to divert to a small land base some 450 nm southwest of the ship's position. If we didn't have this divert, our story

might have ended differently. On the morning after our engagement, we awoke to a startling discovery: Last night's hostile sea had ripped off the droplights from the aft end of our carrier.

"You know," my B/N mused, "last night wasn't all bad. At least we got shot off the cat when the bow was pointed at the sky instead of the water."

Nothing compares with having normal crew pairing when you are faced with an in-flight emergency of this magnitude. My B/N and I had been crewed together for several months and it helped us. In an emergency, the aircrew have a lot on their minds. Sometimes others, like the CATTC rep and the tanker pilot, have to assist by doing some quick thinking for the overtaxed aviators. A skilled LSO can help you out of a tight spot. My LSO made a point of giving only a verbal command instead of cut lights for the cut power signal. This way, there would be no chance of my responding improperly to a flash on the mirror. He was also careful to say, "Stay with it!" as we engaged the barricade, instead of "Don't eject!" which obviously could have been misunderstood with tragic results.

Finally, the flight deck personnel performed with unsurpassed skill at a time when it counted for real. Their immediate response when the air boss commanded, "Rig the barricade!" made all the difference.

In recognition of their actions during this emergency, Capt. McNally, USMCR, and his B/N, Capt. F.B. Wolcott, USMCR, were named COMNAVAIRPAC Pros of the Week. ◄

This situation has happened before and could happen again. Maybe everyone should try dirty tanking (no, not the movie!) before they have to bet their lives on it. Other scenarios — combat, hydraulic failures or gear blow-down — can also result in the same problem. — Ed.

Capt. McNally is the ASO for MALS-11. At the time of the incident in this story, he was an Intruder pilot in VMA(AW)-121.

Who's Minding the Store?

By Lt. Sam Mills

DURING a recent Mediterranean deployment, our carrier had the opportunity to operate in the Aegean Sea. We were involved in a major NATO exercise. Flying space was very restrictive because of the many nearby islands. A night strike escort jamming hop, was one of the better hops during this exercise. I was flying in the right front seat. In the CVIC brief we found out it would be an EMCON recovery. I wasn't worried because we'd been doing EMCON recoveries for the past two weeks. We completed the standard NATOPS brief — books read and signed. We even had time to do some quick paper work and grab a slider before we had to man-up.

We completed the launch, and the mission was a success. Then came the hard part, finding the carrier. Armed with the recovery PIM and an operational INS, I guided the pilot to where the carrier should be. We wanted to overfly the carrier to get an accurate position for our marshal point. So, I tweaked the radar and found a contact in the direction and range of where the carrier should be. Fantastic — we were all set. Or so we thought.

We descended to 1,000 feet to get a visual on the carrier. The radar altimeter was set to 200 feet. I spotted some lights six miles ahead of us. I told the pilot I had a visual on what I supposed was the carrier. He confirmed the same thing. As we flew in closer, the carrier didn't look quite right; I asked the pilot to look again at the contact to confirm it was the carrier. We were bore-sighted on the carrier as we flew along its starboard side. The pilot and I leaned over to the left to get a good look at the carrier. Neither of us realized our Prowler was in a port descent. A very timely altitude call from the back seat brought the pilot and me back inside the cockpit. The altimeter confirmed what I feared. We were at 500 feet and didn't know it.

After finding the real carrier, we headed out to marshal. We discussed our incident, and this is what we came up with:

— Scan, scan, scan. Keep that head moving. Don't get wrapped up on one item of the hop.

— Back the other crew members up. It saved us. Fight the tendency to feel that you're just along for the ride.

— Use your radar altimeter. Make it part of your habit pattern, especially at night over water.

— Everybody in the plane has a job. Don't overload yourself.

Take each flight seriously. Each flight starts before the brief and ends after the debrief. ◄

Lt. Mills is an NFO with VAQ-140, flying EA-6Bs. He is the squadron EW officer.

Single Motor Madhouse

By Lt. Mark Peters

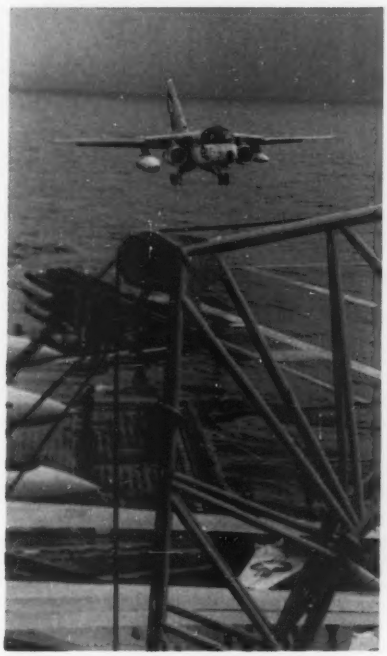
. . . We made it over the ramp, caught the No. 1 wire and started to careen across the landing area at a 20-degree angle off centerline . . .

IT started out as a routine SSC hop on our WESTPAC tour. The CVIC brief was completed, our assigned search sectors published, a little intelligence was provided, and an inspirational video was shown. The pilot covered all eventualities, and I briefed the mission portion. We donned our survival equipment, read the ADB and walked to the roof to preflight our "War Hoover."

While reading the book, I saw that the S-3 had not been flown for some time; so on my preflight, it came as no surprise to find no oil visible in the oil reservoir sight gauge of the No. 2 engine. The oil drains to the lowest sump on the TF-34 engine if the aircraft sits dormant, and the sight gauge is only reliable within 10 minutes of engine shutdown. The pilot also noticed the gauge and mentioned it to the AD trouble-shooter who assured us that it was properly serviced and OK.

We manned up, started both engines, taxied to No. 3 cat and went flying. I was busy setting up the radios for LINK, talking to Strike, Foxtrot Sierra and performing a myriad of chores when the pilot said, "Hey, look at No. 2 engine's oil pressure!"

As I looked up, I saw the needle drop to 60 psi. Normal range is 60 to 90 psi. We turned back to the CV and performed the oil system malfunction EP. Oil pressure continued to decrease, and at 42 psi, we secured the engine. We had no other indications of engine malfunction, but NATOPS said to shut down when



oil pressure is out of limits with a drop of more than 10 psi.

We did our single-engine procedures, called the Air Boss, and talked to the Viking rep. The Skipper talked to us, and we arrived at the configuration we wanted for landing. We jettisoned our buoys, MK-76s and some fuel, but we kept the TER and the tank (the Skipper was funny about not wanting to lose those).

We took a three-mile, straight-in approach, and all looked good until we hit the burble just aft of the ramp. The LSO called for power, and the No. 1 engine slowly spooled up. We made it over the ramp, caught the No. 1 wire and started to careen across the landing area at a 20-degree angle off centerline.

We went straight toward the emergency pull forward six-pack. As our aircraft jerked to a halt at the end of trap, my right wingtip position was 1 foot above and 3 feet past the wing box of an F-14 in the six-pack. Looking out of my front windscreen, I saw the nose of another F-14 barely 6 feet away. Had we caught any other wire or missed the wires, our landing could have been disastrous.

Asymmetrical thrust was our problem. We had been warned about it at training command and the FRS. When we came up on the power to get us through the burble and over the ramp, the nose of our aircraft reacted exactly as Newton said it would and yawed into the dead engine.

Why did the engine pressure drop? I went to QA to find out. They told me that when the engine had last been reworked, the oil drain plug had been improperly installed without a lock wire. Engine vibrations had caused the screw to back out and fall inside the engine cowling. Later maintenance inspected all of the other squadron engines and found five others with the same discrepancy. Getting to the root of the problem immediately saved others. ◄

Lt. Peters is an instructor at VT-10. When he wrote this he was with VSA-21, an S-3 squadron based at NAS North Island, San Diego, Calif., and deployed in USS *Enterprise* (CVN-65).

Dark and Stormy in the Moonlight

By Lt. Mark Aster

I RECENTLY joined the squadron during workups after I had spent several months in another squadron that had been disestablished. I was becoming confident in the F-14 and looked forward to this at-sea-period as a chance to improve and establish a place in the squadron.

The flight involved AIC and ACM, ending with a night recovery. The prospect of ACM got me going, and the night trap wasn't a big deal since there was a nice waxing moon rising just before recovery time, according to the air plan.

I felt pretty good as we manned up: A reasonably exciting mission, a nearly full moon and nice weather awaited. To top things off, a decent ready room movie would be shown just after we recovered.

The sun was setting as my flight lead and I knocked off after our last engagement and began a max conserve return to the ship. We checked in and got Marshal instructions. By now, it seemed to be getting quite dark, and I wondered aloud to my RIO why lead hadn't turned on his external lights.

"Well," Flash replied, "he ought to have them on anytime now — it's a half-hour before sunset."

"Before sunset?" I asked. "That's strange, seems dark to me."

"Yeah, maybe it is . . . there's supposed to be a moon, right?" Flash asked.

"Sure is, at least, according to the air plan."

"Well, the air plan's never wrong," Flash said dryly.

We had a good laugh at that one as I kept squinting at the now-hazy outline of the lead's airplane.

"Where the heck are your form lights?" I silently asked as his dark shape became more and more part of the blackening sky.

The matter became academic as lead flicked his external lights — merely cloudy points of light — and we detached, setting up our pattern in marshal. It was dark everywhere. Almost unconsciously, I thumbed the instrument and console lights up to full intensity. There was an almost imperceptible purple horizon off to the west, all that remained of daylight, and I kept looking east for signs of the carrier pilot's best nighttime friend. No such luck. "When is that moon coming up?" I wondered.

Before long, it was time to begin our approach, and I completely forgot about everything except the upcoming pass. The darkness was offset by the comforting red glow inside the cockpit. The ILS needles appeared, and for the next few minutes, I was absorbed in the details of the descent, line-up and dirty-up.

I knew the weather was good except for a thin, broken layer at 1,500 feet, and I looked up from my displays at six miles. Like anyone else, I cheat on line-up when the weather allows it, so I was a little confused when I looked ahead and saw . . . nothing. I might not have too much experience, but I knew I should have darn well seen something — a yellow dot of light, a little reflection off the water — at six (now five) miles. I checked altitude: 1,200 feet. I cross-checked ILS azimuth with the TACAN needle: dead on course. The ACLS controller had just locked us up, and that, too, showed me on course.

"Oh, well, it must be hazy," I said.

"Say what?" Flash asked.

"Um, nothing. I can't see the boat yet." Four miles now.

"Then, your eyes are worse than mine, amigo, 'cause it's on the nose."

I craned my neck and stared for all I was worth. Yes! There it a tiny speck of light.

"Ah, OK," I called, "I see it."

Our final controller spoke up, too. "Going well above glide path . . ." Oh, yes, this was supposed to be an instrument approach. I got back on the gauges and flew to a pretty reasonable start on the needles.

"205, on glide path, on course,

three-quarters of a mile, call the ball."

"Got a ball?" Flash said.

"Yeah," I replied, not at all sure what I had, exactly. There was some green up ahead, and some amber, and no red — so it had to be the ball. Flash called the ball. Paddles rogered, and I promptly drove it off the top of the lens.

"You're going high . . . You're high . . . Wave off!"

I hadn't seen a thing. It happened just like that. The image on the lens was so fuzzy that I hadn't realized it was moving upward.

"205, Paddles."

I keyed my mike. "Go ahead."

"You had a nice start there but got way overpowered. Be easier with it on the next pass."

I grumbled to Flash. "A little easier . . . Sure, I'll be easier with it, if I can see it." Flash called Paddles and asked that the source and datum lights be turned up.

"Fat on gas, nice night, no sweat." Flash chanted the calm-the-nugget mantra as we headed downwind. "Hey, the moon's up."

It was. I hadn't noticed it before but there it was, the faintest moon I'd ever seen. There was no horizon, and I pledged myself never to care again about the moon phase, a pledge I'm sure I'd broken by the following week.

My next pass was as bad as the first, a good start followed by exaggerated power and altitude corrections as the indistinct ball sailed off the bottom of the lens so fast I nearly gagged. The wave-off lights were a relief.

Another impromptu LSO debrief followed, then another request to turn up the lens lights. "They're full up," the LSO said. Flash began the mantra once more as we turned downwind.

"Hey, relax, no sweat. Look, we've got 5.5, and that's enough for a few more passes before bingo — oops, never mind. We're blue water." We were practicing blue water operations, actually, and we both knew that although there were three diverts within 110 miles, we'd be airborne until we trapped on the ship. That prospect seemed pretty bleak as I made two more hairy attempts to land, one necessitating an in-close wave-off that raised more than a few hairs on the platform and our cockpit.

By now, I was convinced that my eyesight had deteriorated to nothing. No matter how hard I tried, I still couldn't see the ball well enough to even think about making timely corrections. It was exasperating, and I was sweating hard.

At the next ball call, I heard the frustration in CAG Paddles' But his talkdown did the trick.

"Don't climb . . . easy with it . . . don't chase your line-up . . . don't settle . . . a little power, power, *attitude!*"

Snag! My left hand pounded the throttles forward as we lurched to a stop. I had no idea where the ball was on touchdown, or even if there *was* a ball on touchdown. All I knew was that it was over. My knees buckled and my hands shook, and it was all I could do to follow the director's signals to a spot on elevator 3 where we were chained down. There was sweat running in my eyes as I reached up and . . . Clunk!

I was astounded. To this day I can't believe that I flew that night with my dark, daytime visor down! I was numb as I raised the visor to be greeted by what seemed like daylight. Moonlight streamed everywhere, glinting off the water and hurting my eyes.

I confessed everything to Flash. He just laughed and never said anything more about it, making him pretty unflappable for a fighter guy.

Paddles was as shocked as I was. The LSO was surprised I had managed to get aboard at all. The incident provided fodder for more ready room abuse than I'd experienced before, or since. It sure made me tighten up on my cockpit procedures, though.

While I'm more comfortable around the ship today, I always think while I fly. It really is the small stuff that bites you. ◄

Lt. Aster is an F-14 pilot with VF-111, and is a squadron LSO.

One problem you won't have when you dial

1-800-HOT-SFTY

is getting a straight answer to your safety question.
This is the Safety Center's hot line and we are here to help.

"I Met My Limitations on the Bow"

By LCdr. T.W. Trotter

THE Skipper wanted only a select few "experienced" aviators to fly the night events. As a department head with 1,700 hours in-type and 600-plus traps, I met all of the prerequisites to get my night refresher. I thought the trap would be the trickiest part of the flight with a severely rolling deck and a gamey pitch.

Since we were an airborne respot, I hung around overhead for 30 minutes and watched the recovery that preceded ours on the forward looking IR pod. Some of our pilots were having problems putting the hook to the wire on the first attempt on the dark, pitching deck. I trapped on my first try. Now it would be easy to face the JOs and say, "It wasn't all that bad out there."

As I taxied toward the bow, I noticed there weren't many spots left to park. The only one left was the last one on the tip of the port bow. The director was cautious in bringing me up along the starboard cat track, readying me for a 90-degree turn around the shuttle at the pointy end of the boat.

The carrier continued its rolling, and now we were in a rather significant starboard list. As I attempted to make the hard left turn, I could feel the nose gear's tires slip along the greasy cat track, bringing me even closer to the edge of the bow. Since I was seated in a cockpit that places the pilot out over the water with the nose gear behind the cockpit, I was rapidly approaching my personal limit for making the turn around the horn. The director signaled that I had a good 2-3 feet to go. "Don't worry, just taxi," he seemed to be saying. I tried once again to get over the track with the throttles near 85 percent, but I just couldn't get over the small ridges built into the catapult track. By now I was getting the attention of many maintenance guys along with a slew of yellow shirts. I got the impression I might be letting everyone down by not being a "hacker" at getting my machinery parked with their expert help.

PHAN Bonham

. . . As I attempted to make the hard left turn, I could feel the nose gear's tires slip along the greasy cat track, bringing me even closer to the edge of the bow . . .

It finally dawned on me that this wasn't worth it. I had met my limit, and I'd be damned if I'd go any further, even if it looked good to them. They weren't sitting as high as I was, and my view was better.

At this point I gave the yellow shirt a big negative head-nod and made a UHF call to the Boss that I wasn't moving any further, I had gone as far as I was willing to go. I felt as though I was going on strike for better working conditions. Subsequently, a tractor was hooked up, and within minutes I was chocked and chained.

As I made my way through the passageways toward the ready room, I began to analyze the predicament I had just gone through. Over the years we set personal limits. As Naval Aviators, we are frequently tested on just how far we would be willing to go. Better to be the guy who can take a ribbing from his squadron than the guy who inadvertently taxied over the side because he pressed beyond his personal limits.

LCdr. Trotter is Safety Officer for VFA-25, an F/A-18 squadron based at NAS Lemoore, Calif.

Nugget's Night Out

By LCdr. John J. Infield

THE squadron was midway through an eight-month deployment. The ship was on station in the eastern Mediterranean doing normal cyclic operations. It was my first deployment, and we nuggets had reached the stage where the Skipper and Operations Officer would let us fly together at night. It was my first hop with a nugget pilot, and it was his first with a nugget B/N. We were Dash-3 for a live ordnance drop of six MK 83s on a rock island target 200 miles from the ship.

Because of our spot, our A-6 was launched first into Case III weather. We finally found VFR on top at FL 290. Since we were the first to launch and had reported solid IFR with rain and lightning, the ship altered its BRC (base recovery course) and reference radial for the following launches. This placed us out of position to make an expeditious rendezvous. To speed things up because of the cycle time and the distance to the target, the lead aircraft pushed while we were still 10 miles from joining up. We did the old air-to-air TACAN trick and proceeded to close on the lead.

Things were going great until the inertial, our primary attitude instrument, quit. We were only two miles behind the lead aircraft. We decided we did not want to do night dive bombing using the secondary attitude source, and the flight lead concurred. We turned back to the ship. We were advised of a clear area to jettison our ordnance.

With nothing else to do until marshal time, we decided to try to get an in-flight alignment of our primary attitude instrument. To do this correctly, we were supposed to have an operating autopilot. Ours was inop, but we thought we would try it anyway. We had plenty of time with nothing to do. My pilot held the controls as steady as he could to reduce unwanted inputs into the alignment. After the prescribed time limit, we checked and found the in-flight alignment looking good. However, a small note in NATOPS stated, "If alignment is tried without autopilot, a degraded alignment may occur."

We marshaled and pushed on time. The weather cleared somewhat, and visibility under a 10,000-foot ceiling was unrestricted, except in rain showers. At 10 miles we had dumped to landing weight and were told to go dirty. Shortly afterward, my pilot told me he had vertigo.

As I checked the instruments verifying with him that all was well, the inertial dumped again. Automatically I switched to the secondary attitude source and kept up an internal GCA. I did not inform the pilot that we had lost the inertial again, and he had not seen the momentary platform light.

As we got closer to the ship and I was looking outside for line-up clues, I thought the ship looked brighter than normal, but attributed this to the solid overcast. We began our

descent right at three miles. At one mile I could see an aircraft still in the landing area with people around it. I passed this information to the pilot and called the ball. At one-half mile, we were told, "Wave it off, foul deck."

As we passed over the angle deck, I could see an aircraft with its right wing down and all sorts of yellow gear surrounding it. Approach gave us a low holding pattern 10 miles aft of the ship. I began to think about the 3,000 pounds of fuel we had dumped just 15 minutes earlier. We cleaned up and reduced fuel flow as much as possible. Approach was passing bingo fuels and pigeons to the primary divert. After flying around for 20 minutes, watching our decreasing fuel state, approach asked us if we could commence from our position. We replied affirmative and turned toward the ship with a state just above bingo. At three miles approach told us to switch to departure. Our signal was divert.

We switched and received an updated heading and distance to our divert. We rogered and told them we were climbing to FL 370 on our bingo profile. Departure responded with a call to remain below 4,000 feet because of the marshal stack. My pilot and I looked at each other in amazement. We agreed we were still going to climb and informed departure of our decision and told him to move aircraft as necessary.

My pilot had taken up the heading given by departure, and I was typing the divert field coordinates into the system. When I cycled the system to the coordinates, it displayed a heading and distance given to us for the divert. I checked my figures and found them correct. I then remembered the inertial dump and not having aligned the system but allowing it to drift. Luckily, our divert was on an island, and I could see it on my radar. I updated and got our system online. The rest of the hop went 4.0, and we landed with more than enough fuel even though the low-fuel light came on while we were taxiing to the transient line.

We made some good decisions that night. First, we decided not to go dive bombing on a secondary attitude source. Second, when on a bingo profile, don't let anything stop you.

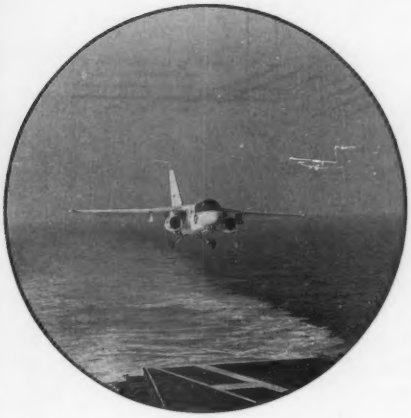
Mistakes I made that night changed my way of operating in the aircraft. I will always tell the pilot about attitude sources. Part of the pilot's vertigo was induced from the inertial starting to go bad. If I had told him about this immediately, he would have recovered sooner.

I will try to keep my system updated continuously. Now I always have the divert field entered into my computer, ready when needed. This will save precious time to find divert coordinates, type them in and update the system. If the weather had stayed bad and the divert not easily picked up by radar, we might not have made it. ◄

LCdr. Infield is currently assigned to VA-95 at NAS Whidbey Island, Wash., as the administrative officer and has over 1,300 hours in the A-6.

The Centered Ball of Trouble

By LCdr. Steve Dailey



. . . (The ball) was off by 9 inches. This made two balls high on the lens actually one ball low in glide slope . . .

HAVING just completed our share of night traps on a pitching deck using MOVLAS, we welcomed a sunny day with calm seas. As we assembled on the LSO platform for the day's first recovery, I breathed a sigh of relief and thought this would be an easy LSO day.

An F-14 was the first aircraft in the pattern. A low 90 was followed by an even lower start. The controlling LSO called, "You're a little low."

The Tomcat responded, but in the middle, it started to settle again. "A little power, power!" . . . Taxi one.

The next F-14 came in with a good start, but by "in the middle" it began to settle. Hard power calls made him go low and flat at the ramp. He caught the 4-wire on the fly.

After the Tomcats came the Intruders, Prowlers and Vikings. They quickly made me forget my illusion of an easy LSO day. These guys did better with night, pitching deck MOVLAS.

On the way to the ready rooms for debriefs, I couldn't remember the last time I had seen so many 1-wires and so few 3-wires. The pilot of the first Tomcat said, "No kidding, Paddles, I was looking at a high ball the entire pass. Was the deck pitching?"

"No, it was a steady deck," Paddles answered. "You were just dragging it in all the way."

Right, high ball. Who's this guy trying to kid? As we visited the rest of the ready rooms, we heard the same story.

"Hey, Paddles, why are you giving me power calls when I'm looking at a high ball?" a pilot said.

Now I began to believe the pilots and started to doubt the lens. I rechecked the lens at the start of the next recovery to see if was functioning properly. The aircraft lens setting, hook-to-ramp indicators, hook touchdown indicator and cell intensities all checked out good. So it must have been the pilots.

As the first aircraft of the second recovery rolled into the groove, we said, "You're a little low. Add some power. Power!" Taxi one.

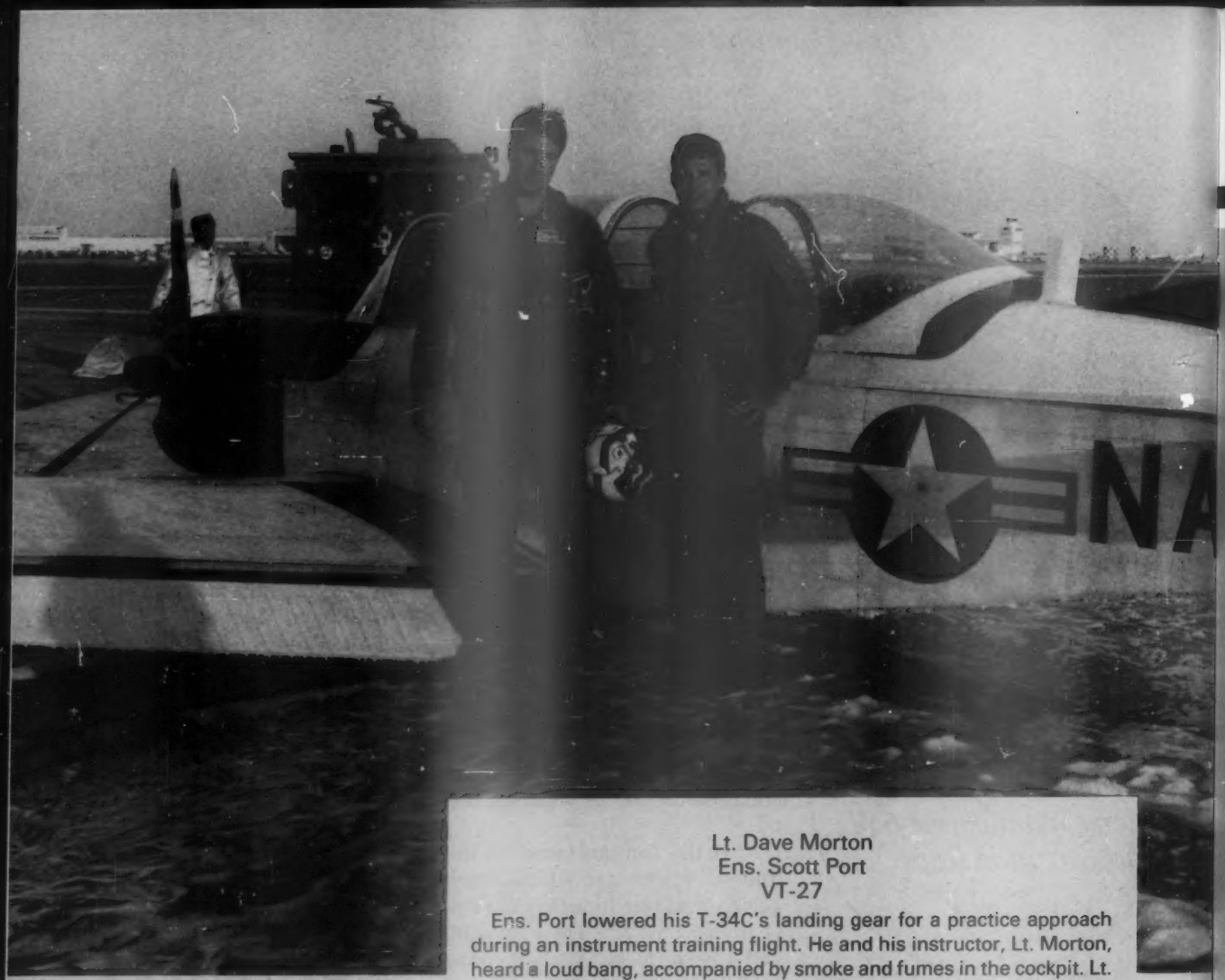
"Boss, Paddles, on the hot line. Rig the MOVLAS. There's something wrong with the lens."

At the end of an uneventful and comparatively relaxing MOVLAS recovery, we went to the lens to watch the pole check I had requested. It was off by 9 inches. This made two balls high on the lens actually one ball low in glide slope. It turned out that one of the servo-drive motors failed, and irregular voltage was driving the lens to improper basic angle settings while indicating accurate lens settings. This could have caused a landing mishap, particularly at night.

The Fresnel lens is 1950's technology. It is hard-pressed to compensate for minor pitching decks and any degree of heave. Some improvements include the class stabilization system and the inertial stabilization system.

We have learned that there's no such thing as an easy LSO day. No matter how many bad-weather days you've had in a row, the first calm day is no guarantee of smooth sailing. ◄

LCdr. Dailey, a former instructor at the Navy LSO School, is the Senior Staff LSO on board USS *Ranger* (CV-61).



PHAN Brian S. Sprayberry

Left to right:
Lt. Dave Morton,
Ens. Scott Port

Lt. Dave Morton
Ens. Scott Port
VT-27

Ens. Port lowered his T-34C's landing gear for a practice approach during an instrument training flight. He and his instructor, Lt. Morton, heard a loud bang, accompanied by smoke and fumes in the cockpit. Lt. Morton took control and began NATOPS in-flight fire emergency procedures.

As the smoke cleared, Lt. Morton saw unsafe gear indications, which he associated with the bang and smoke. As he reached for the circuit breaker for the landing gear motor, it popped. He checked the gear indicator, which showed the port main mount was up, with the nose gear and starboard main mount down and locked.

Lt. Morton realized he had time to deal with this emergency and asked the tower for a fly-by visual inspection. Another squadron aircraft soon joined Lt. Morton and Ens. Port, and the second T-34 confirmed the port main mount up, and the landing gear door gapped. Lt. Morton now knew the situation was serious and only partly covered by NATOPS. He talked things over with his wingman and then with maintenance personnel.

They decided to raise the gear by first raising the gear handle and then using the popped circuit breaker as a switch. The sound of the gear motor, followed by a three-up-and-locked indication brought a sigh of relief from everyone.

"Now, the easy part: a gear-up landing," Lt. Morton thought. While he circled the field, the squadron recalled aircraft so they wouldn't have to divert when the runway was closed.

Lt. Morton and Ens. Port made three practice approaches to rehearse

procedures. Just past the 90-degree position, Lt. Morton secured the fuel and told Ens. Port to blow the canopy and turn off the battery. Lt. Morton made a successful gear-up landing, and damage was limited to the flap trailing edges and underside of the fuselage. The propeller was undamaged.

LCdr. Jeff Wolf
Lt. Jim Connor
AW2 Louis Tillinghast
HSL-74

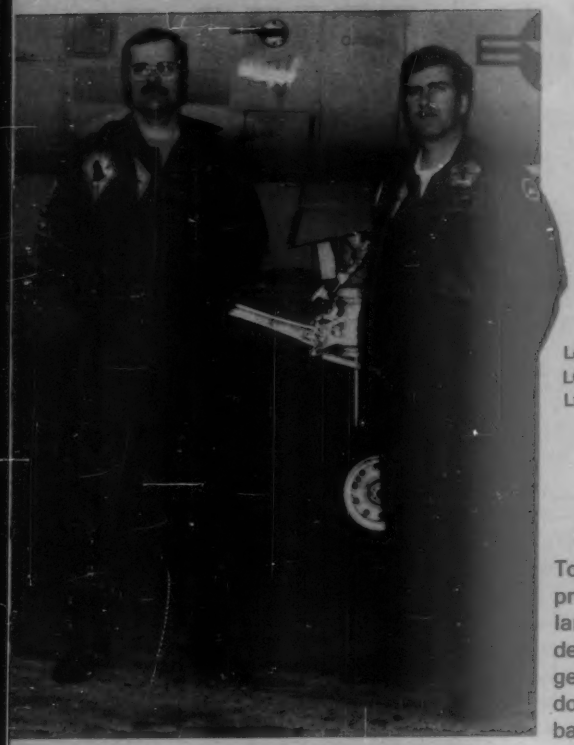
After a normal liftoff during a winter, night, deck landing qualification (DLQ) cycle aboard USS *Valdez* (FF-1096), LCdr. Wolf crossed the deck edge at 40 feet. He switched from visual to instrument scan to begin his climbout. Suddenly, his cockpit lighting dimmed, and he lost ASE, gyro and radar altimeter readings. Lt. Connor (copilot) reported illuminated caution lights for the 28V converter, emergency fuel pump, fuel transfer and auto blade track.

LCdr. Wolf began a partial panel, ASE off, instrument departure. AW2 Tillinghast reported smoke in the cabin, and Lt. Connor declared an emergency. LCdr. Wolf stopped the climb at 250 feet, and on Lt. Connor's call, he turned downwind. Since the ship's SGSI was inoperative, Lt. Connor gave altitude and airspeed recommendations to LCdr. Wolf.

The crew determined an AC power failure had occurred and a total electrical failure was imminent. LCdr. Wolf reduced power and discussed control assistance procedures with his copilot if they lost boost. He then made a no-hover, emergency landing aboard USS *Valdez*.

The CO commented, "The timely and correct response by the aircrew to this unusual emergency situation resulted in a safe shutdown on deck.... Cool-headed response by the flight crew and quick action by the flight deck, tower and fire personnel indicates top-notch training by all concerned."

Left to right:
LCdr. Jeff Wolf,
AW2 Louis Tillinghast,
Lt. Jim Connor



Left to right:
LCdr. John Barstow,
Lt. Chris Tochterman

Lt. Chris Tochterman
LCdr. John Barstow
VF-142

While flying a post-maintenance check flight (PMCF) in W-72, Lt. Tochterman (pilot) and LCdr. Barstow (RIO) experienced a *quiet* compressor stall on their F-14's left engine just after they extended the landing gear for dirty approaches to stalls. When the TIT hit 1,000 degrees, Lt. Tochterman secured the left engine and raised the landing gear. He turned back toward NAS Oceana. As the left engine wound down and the landing gear was in transit, the right engine began banging loudly.

Suspecting an AICS problem on the right engine, Lt. Tochterman selected Stow on the right ramp switch. Stowing the ramps did not correct the problem, and the banging continued, leaving no choice but to try a relight on the left engine.

Diving for airspeed, Lt. Tochterman restarted the left engine passing through 8,000 feet. As the left engine came on line, the right engine stopped banging. Lt. Tochterman left the right engine at idle.

He conducted controllability checks at altitude and made a safe landing at Oceana. Throughout the incident, LCdr. Barstow provided expert assistance in monitoring critical flight parameters, performing NATOPS emergency checklist items, and coordinating emergency handling during the recovery.

Postflight inspection did not show any signs of aircraft or engine problems. However, a borescope examination revealed a severe internal FOD to the left engine. Extensive trouble-shooting on the right AICS/ramp system revealed no discrepancies. An in-depth investigation gave the following as the most plausible reason for the incident.

When the landing gear was originally lowered, the ramps were commanded to stow. Shortly afterward, the left engine stalled requiring Lt. Tochterman to secure it. The right engine had to assume the entire hydraulic load. Subsequent raising of the landing gear did two things: It put a large hydraulic demand on the right hydraulic system, and it allowed the right ramps to be released from the stow locks.

With the hydraulic demand caused by raising the gear, the 1,800 psi priority valve diverted hydraulic power from the ramps, allowing them to float. This closed the right inlet opening to the point that the right engine began chugging or stalling. As the left engine was windmilled for restart, the hydraulic systems on both sides provided full pressure, thus properly positioning the ramps and allowing the right engine enough air for normal operation.

Cdr. Scott Sanwick
LCdr. Phil Scher, Jr.
VFA-305

During a 1 v 1 ACM engagement, Cdr. Sanwick pulled his F/A-18's nose high after a scissors maneuver at 20,000 feet. LCdr. Scher was 1,500 feet in trail in a slightly overshooting position. Suddenly, Cdr. Sanwick called that he had a left engine fire light. LCdr. Scher quickly called, "Knock it off" and moved into position to check the other Hornet. Cdr. Sanwick secured the left engine and leveled the wings. LCdr. Scher could see smoke trailing behind Cdr. Sanwick's aircraft, and after another two seconds, the smoke erupted into a 12-foot cone of flame that shot from the tailpipe. LCdr. Scher called for Cdr. Sanwick to activate his fire extinguisher.

A second fire light illuminated, but although LCdr. Scher looked closely, he could not see smoke from the right engine. The two pilots discussed whether or not Cdr. Sanwick should eject. The fire had apparently been extinguished, and Cdr. Sanwick decided to remain with his stricken plane. He took up a heading of 330° for the briefed emergency field of Gila Bend, some 40 miles away. However, more flames began shooting from the left engine, shorter and less intense than the first fire, and were gone within three seconds.

As they pressed on toward Gila Bend, the two naval aviators discussed systems and single-engine landing procedures. LCdr. Scher broke out his NATOPS PCL and began checking it thoroughly. Cdr. Sanwick then had a right bleed warning light. LCdr. Scher checked his PCL, but it said that the engine had to be secured. Obviously, this was not feasible, and the two Hornets kept going. Cdr. Sanwick decided to make a straight-in approach to an arrested landing on Gila Bend's runway 35 as the crash trucks stood by.

At 12 miles, LCdr. Scher checked Cdr. Sanwick's Hornet again. He couldn't see any fire, but there was a steady trail of black smoke coming from the port tailpipe.

Cdr. Sanwick made a perfect arrestment, and as he rolled out on centerline, he secured the right engine. LCdr. Scher made sure his squadronmate was safe and then recovered at Luke AFB.

The cause of this incident is still under investigation. ◄

Left to right:
Cdr. Scott Sanwick,
LCdr. Phil Scher, Jr.

Occasionally, we get inquiries as to the derivation of the Bravo Zulu feature, as well as the meaning of the term "Bravo Zulu." Bravo Zulu, the precise meaning of which is "Well Done," was apparently first used during World War II, perhaps by Admiral Bill Halsey himself, although the exact date and circumstances are lost. BZ is a category of the signalman's terminology called a "governing group," and is used to set off a group of data or messages which follow the BZ.

Every service safety magazine has its own laudatory feature, and Approach used a succession of titles before settling on Bravo Zulu. The first was "Old Pro," followed by "Good Show" (the British use a similar title), then "Well Done." The first Bravo Zulu appeared in the February 1972 issue of Approach and has become a regular feature of the magazine ever since.

If you want to submit a BZ nomination, here's how.

The nomination must be submitted through the commanding officer of the squadron, chopped through the appropriate air wing, MAG or PATWING. A 5-by-7 black and white photo of the air crew involved should also accompany the story and endorsements. Photos of the event are always welcome, such as a barricade arrestment or landing approach. Views of damaged equipment, i.e., canopies, tires, are also important.

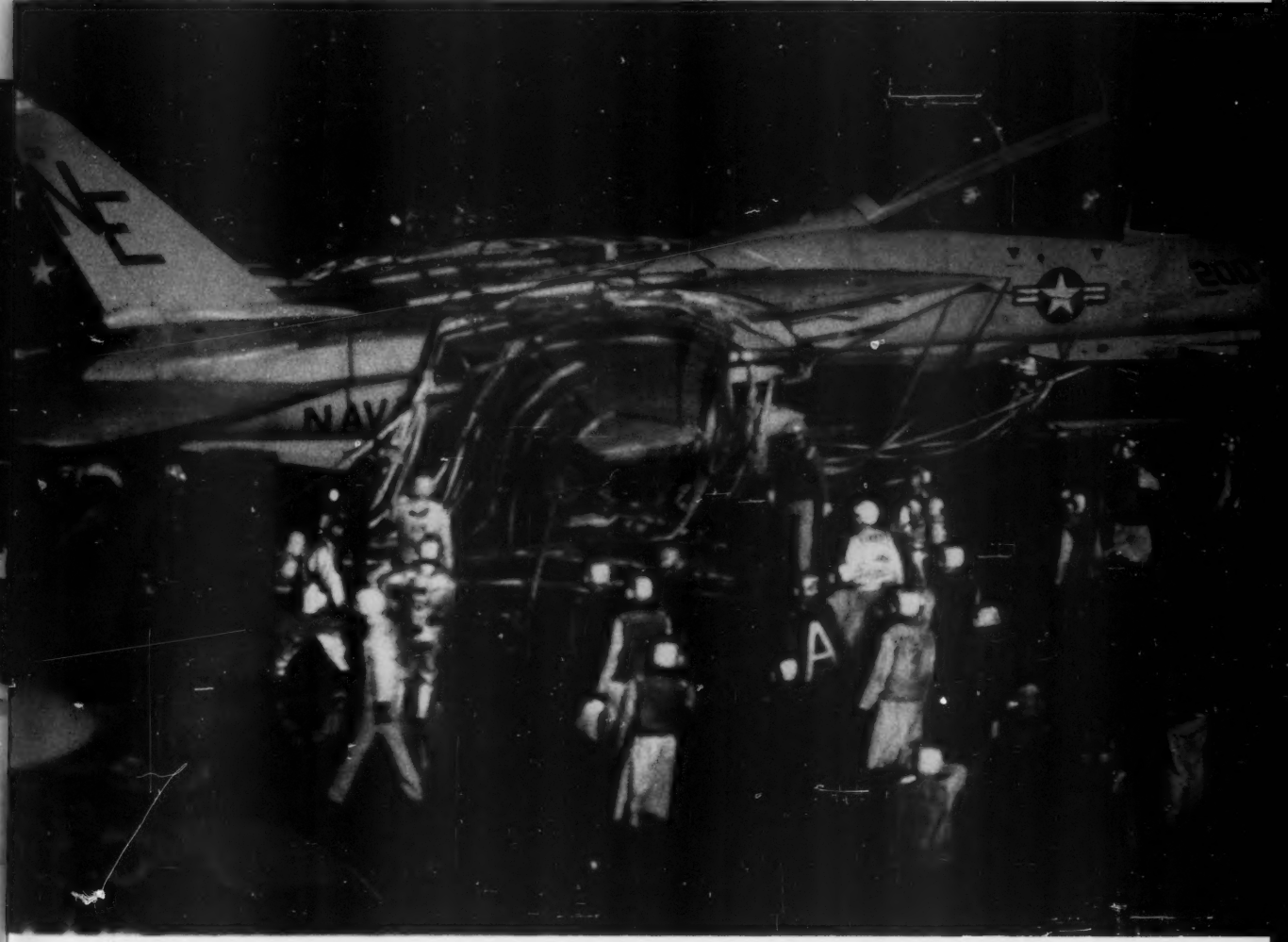
Send the nomination to: Editor, Approach Magazine, Naval Safety Center, NAS Norfolk, VA 23511-5796.

Tangled Up In Blue

By Lt. Tom Page

My RIO and I were the last event of the night. For a while, it looked like we would be cancelled due to weather. As bad luck would have it, the 'gator found a tiny gap in the bumpers for us to launch.

(Water Ops)



Once spotted on the cat, I watched the shooter's wands signal for burner. I switched on my external lights and waited for the stroke. The shot felt normal, and a few seconds later we were airborne. A horizonless, moonless night in the IO, five days since my last night trap, thunderstorms in all quadrants — somehow I knew it would be a colorful night.

After the AIC portion of the hop, my RIO and I joked that if we suddenly lost our TACAN, we should just put the biggest, baddest weather cell on the nose and the carrier would be right beneath it.

The storm had intensified, as was evident by the heavy lightning we saw. We checked in with marshal and immediately got random vectors to start our

approach. We reluctantly dumped our spare gas to show up with max trap on the ball. Despite a slight case of the leans, I was feeling good about everything . . . until we hit the turbulence. I had flown in storms before, and I knew what to expect. But, I was caught off guard by the violence we encountered. What must have been microbursts from the center of the storm forced us to change altitude in 2,000-fpm and 20-knot increments while we fought to stay level. I picked the ship up at 1.5 DME, and I tried to salvage the ugly approach. I ended up boltering instead.

"I'll get it the next try," I thought. "Besides, you can't buy training like this."

Once in the penalty box, I got a delta easy and 15 minutes of holding. At this point, we were not as concerned for ourselves as we were with a low-state A-6 with a compass problem. Rapidly approaching tank fuel, we were vectored to the final bearing for another try. The approach was similar to the first, except at paddles contact, we were crabbing into a stiff crosswind just to keep the ship in sight. We later found out that the winds were 50 degrees off at 50 knots, which explained why the CV was constantly changing the final bearing on us. Paddles pickled us for the winds being out of limits, and around we went.

Expecting the inevitable, our signal was now tank, along with everyone else who hadn't already diverted. Air ops and CATCC now had their hands full trying to manage the tanking plan while trying to keep us in the clear. The no-gyro A-6 was still high priority at this point, followed by my wingman and me. The confusion of having a three-tanker rendezvous occur on the same frequency was distracting but unavoidable. After what seemed like an eternity, and with our fuel totalizer reading 2.0, we finally joined up on an S-3 only to find out that he had only 1,000 pounds of fuel to give. We plugged and let Air Ops know that we needed more fuel. Air Ops had already solved the problem by launching a maxi-tanker to top us off. The timing couldn't have been better as the Intruder joined on us as we pulled out of the S-3's basket.

We were in and out of the clouds at 1,500 feet as we crossed over to the A-6 and plugged only to get a sinking feeling when my RIO said there was no flow. I thought this couldn't happen to me, but the A-6 confirmed no flow and said he did not show us in the basket. We disengaged and I told my RIO there would be no question this time.

In for a second time but with the same results: no flow.

I realized that getting back to the ship and landing was our priority now, not getting gas. With 2.0 back on the totalizer, we were given a vector from CATCC after we told them about the sour tanker. In spite of everything that was happening, I felt confident that I could get aboard on the next pass, especially since CATCC told us that the ship had finally found a clear area.

Skirting the last big cell between us and the ship, we got a radio call that caught us totally off guard.

"This is CAG. We've decided to barricade you." Shock and disbelief turned to anger as I could already see the ship in the clear at 8 nm. I realized that the CAG's decision was based on hard numbers in the air wing SOP and not on my ability to land the jet. I focused all my energy on flying a good pass. At the moment, it was like the Dali Lama himself had whispered "Gunga lagunga" in my ear, for I had just reached "total consciousness." (If you don't recognize these phrases, cut your hair and send yourself to sea. — Ed.)

CAG paddles thoroughly briefed me on barricade procedures, stressing the importance of landing on centerline and not to take my own wave-off, especially at the in-close position where I would be committed to land. He also mentioned that at the cut call, I was to break the habit pattern drilled into all carrier aviators since day one: by going to idle instead of military power. Looking good at 4 nm and 1,200 pounds, paddles told me to do a 360 to give the deck crew more time to rig the barricade. Seconds turned to hours as I arced around delaying the inevitable, my scan unnaturally sweeping across the low-fuel tapes. I milked the max conserve turn as smoothly as I could, concentrating mostly on line-up as I rolled out on final bearing.

At 1 nm, paddles told me to do another 360, again delaying for the barricade rigging. I read 900 pounds of fuel. I briefed my RIO that if we started to deplete the fuel in one or both engines before crossing the ramp and I couldn't handle it, I would yell "Eject!" and see him in the water.

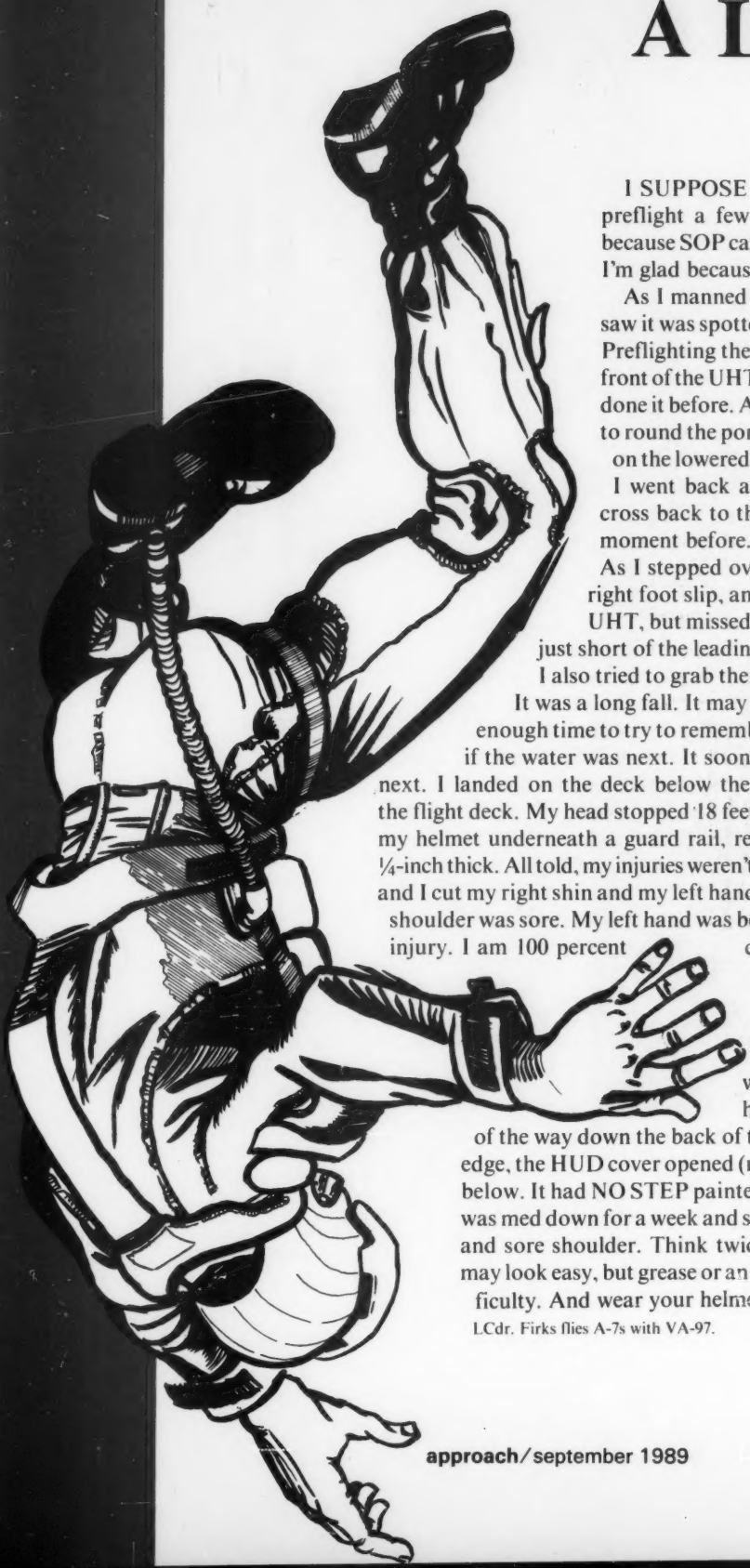
With 180 degrees of turn to go, and approaching 700 pounds, I was tired of getting jerked around and told paddles he would have to take us on the next pass. Working off a little overshoot, we called the ball with 600 pounds remaining. I worked on line-up. Once we were over steel, the LSO called, "Cut, cut, cut!" I sucked the power. By the time I saw the barricade, we were taxiing into the 1-wire and already decelling.

My natural instincts told me to duck as the barricade engulfed the jet, bringing us to a stop right on the centerline. Then, I shut down my engines to avoid FOD. Paddles congratulated me, and my RIO promised the LSO his second born. Teamwork paid off. ◄

Lt. Page is the Pilot Training Officer for VF-2.

A Long Fall

By LCdr. Steven Firks



I SUPPOSE I began wearing my helmet on every preflight a few years ago as an instructor in VT-7 because SOP called for it. The habit stuck with me, and I'm glad because I think it saved my life.

As I manned up my A-7 for an afternoon launch, I saw it was spotted with the tail over the LSO platform. Preflighting the starboard side, I had to hold onto the front of the UHT, out over the catwalk. No problem; I'd done it before. After inspecting the turbine, I was about to round the port side UHT but saw NO STEP painted on the lowered LSO blast shield. Being a good citizen, I went back around to the starboard side UHT to cross back to the flight deck where I had just been a moment before.

As I stepped over (no more than 24 inches) I felt my right foot slip, and I reached for the leading edge of the UHT, but missed. My hand slapped the top of the UHT just short of the leading edge and slid off as I fell backwards. I also tried to grab the trailing edge, but I was going too fast.

It was a long fall. It may have even been a two-screamer. I had enough time to try to remember if there was a catwalk under me, or if the water was next. It soon became painfully obvious: Steel was next. I landed on the deck below the LSO platform, about 12 feet below the flight deck. My head stopped 18 feet lower than it started with the back of my helmet underneath a guard rail, resting on a 6-inch-high curbing about ¼-inch thick. All told, my injuries weren't bad. I had the wind knocked out of me, and I cut my right shin and my left hand. My right hip hurt badly, and my left shoulder was sore. My left hand was beginning to swell. Amazingly, no head injury. I am 100 percent certain the steel plate my head landed on would have split it open if I had not worn my helmet. After a stretcher ride to medical, I was visited by a trouble-shooter who told me what happened. The LSO HUD box has an offset hinge point about one-third of the way down the back of the box. When I stepped onto the rear edge, the HUD cover opened (not being screwed down), dumping me below. It had NO STEP painted on it the following day. I survived. I was med down for a week and still have a pinched nerve in my hip and and sore shoulder. Think twice before taking a hazardous step. It may look easy, but grease or an open lid could add to the degree of difficulty. And wear your helmet during your preflight. ◄

LCdr. Firks flies A-7s with VA-97.

A Paddles Primer For Heavy Weather

The biggest problem you will have is the tendency for the pilot to chase a pitching deck. You must wave him to the proper window with reference to the horizon, and hope the deck will be in a position that will allow him to land.

By LCdr. Timothy A. White

OPERATING a carrier and her air wing in the benign environment of the western Atlantic or off southern California is a far cry from the turbulent and unpredictable conditions that border the Arctic Circle. When your tasking includes continuous operations in the northern latitudes, you'd better drop back and take a hard look at your air wing's ability to launch and recover safely in all weather conditions. Just like in PCS orders, luck and timing play a vital role in successful operations, but the extra effort you put into preparing and planning will be the main ingredient when things get sticky.

The ship and air wing usually have many months advance notice when exotic operations are planned. This time is well spent tasking the supply system and putting the shipyard through its paces to ensure everything works. The cold-weather manuals and point papers should be read and reread until the JOs start showing up for the AOMs in parkas and ski masks.

Training, the backbone of your preparation, starts many weeks prior to deployment. At training AOMs you can offer prebriefs on anticipated conditions and emergency procedures. Techniques are followed by FCLPs using the MOVLAS and carrier-landing simula-

An F-14 Tomcat comes aboard USS *America* in Vestfjord, Norway.

tors with weather down to mins. New technology lets us put pitching deck visuals in our trainers, and the new LSO trainer is now available to sharpen our senses.

Once aboard the ship, the training should pick up. A couple of weeks before your trip north, start the MOVLAS training. If you know that the weather will drive you to predominantly pitching deck recoveries, give the majority of your training to using the MOVLAS. Have the Boss rig station one and keep it rigged for at least four straight days. This will expose all your LSO teams to a MOVLAS recovery and will allow most of the wing pilots to see the MOVLAS more than just once or twice. It also gives you feedback on who responds to your commands, and who doesn't.

Don't let the MOVLAS become "the green machine." Force pilots to work extra hard when it is rigged. If a pilot is not on centerline, not on speed, or he doesn't respond exactly to your instruction, then he doesn't deserve a "greenie." If he shows poor technique or goes for the deck, gash him. If you get the word out now, when the deck is steady, about what you will accept and what you won't, your life will be a lot easier when the deck starts moving.

Use every medium to ensure that each aviator keeps thinking about landing his aircraft. Film an in-depth LSO debrief and make it available to each squadron. Spend as much time as possible on your debriefs and emphasize the effects of a pitching deck. Above all else, keep the guys pumped up. They know it isn't going to be easy and that it is going to take both of you to get their machine back on deck safely.

You can also make life easier by spending time with key people in the ship's company. Your relationship with the Air Boss is vital to your livelihood. Get next to the EMO and the guys on the PLAT. Nothing will ruin your day like the PLAT or your radio being on the fritz when you need it. As the outside temperature drops, condensation builds on the PLAT camera faster than it can be cleaned. It's a good idea to have the PLAT crew put a heat gun on the lens cover occasionally to keep the moisture from obscuring the centerline cameras. Make whatever effort you can to get the centerline freshly painted, and ensure all the lights work. Good lineup on a rolling deck is difficult. Keep the heavies appraised of every little thing affecting the recovery. Both the LSO and CV NATOPS contain interesting tidbits on adverse weather and recovery operations. Copy a few select pages, highlight appropriate passages, and route them

through CAG and the Air Boss to the Captain. You can bet they'll be interested.

When you finally face that first nasty, pitching deck, your efforts will pay off. Now it's down to knuckles and know-how. Keep your cool and let it rub off on your teams. The LSOs on the platform should be well prepared. Each man should have a specific area of responsibility critical to the smooth functioning of the team. The controlling LSO handles the MOVLAS, uses the radios and concentrates on the aircraft in the groove. His backup monitors deck status and the pattern, and watches lineup all the way to touchdown, hawking the PLAT if necessary. The scribe keeps up to date on lineup, radio frequencies and records each pass. The spotter helps the backup LSO with the pattern, communications with the phone talkers, and any other items that pop up. With training, the team will work as one unit, everyone doing his job, ensuring a smooth, safe recovery.

There will be a noticeable difference in the way aircraft look on the ball. Be extra careful with high winds and high come-downs, especially for Tomcats. F-14s will already be close to the mil stops, and too large a power correction will cause the speed brake and DLC to stow, resulting in the aircraft floating. Conversely, the F-14's big turbofans take an eternity to spool up after a large power-off correction. Very little power is needed to correct for a high ball, and considerable power to correct for a low ball.

Other aircraft also have specific areas to watch for. As recommended in the aircraft recovery bulletins, Hornets will want to go half-flaps with sustained high winds since handling qualities are much improved over full flaps. Be careful of an F/A-18 pilot who puts his aircraft's nose down for a while. Train your strike fighters that it is better to keep the attitude on the jet and use power to come down, even if you end up with a couple of bolters. Lineup becomes critical for all aircraft, especially the E-2. When the deck begins to roll. Lineup corrections must be made all the way through the approach, and they need to be smooth and controlled. Don't accept an aircraft that will require a late lineup correction to get close to centerline. Lineup is a major hurdle, so hawk it.

The biggest problem you will have is the tendency for the pilot to chase a pitching deck. You must wave him to the proper window with reference to the horizon, and hope the deck will be in a position that will allow him to land. It's hard for a pilot to fly a MOVLAS recovery looking through the right side of his windscreen, through the ship's jet shop, and see a high ball. The next thing he knows, the deck has cycled, and he sees the planform of the landing area. These are tough corrections, but not insurmountable if he flies what is shown on the lens. As an LSO, don't forget about what you hold in your left hand; a few timely calls could mean the difference between a trap and a wave-off. Of course, all safety-of-flight situations require a voice call.

Communication between the LSO and the pilot is not limited to informative, advisory and imperative calls. The current wind over the deck and a reminder that MOVLAS is in use should be broadcast two or three times a recovery. You'll see winds in excess of 50 knots, and that in itself is important information. With winds that high, reduced cockpit visibility from salt spray is an additional dilemma that will create problems on the glideslope and for lineup.

The exchange of information goes beyond the dynamics of recovery conditions. Aircrew should know to show up with enough fuel to wait out the deck as boarding rates will be greatly reduced with a pitching deck. A courtesy call to a pilot on a wave-off that the approach was terminated because of the pitching deck and not his technique may reduce the pucker factor. All aircrew should feel comfortable talking to Paddles about any other unknown variables during the recovery.

Fatigue will also become a major factor, both for the pilots and LSOs. Three or four hours in a dry suit can wear down the aircrew and may result in fatigue at the end of the flight. Prolonged exposure to the elements on the platform can produce a similar effect for the LSOs. If the recoveries get strung out, cycle your LSOs through positions and send them below decks to warm up and dry off. Even 10 minutes in a warm room can rejuvenate a weary LSO.

The chance to fly and wave under adverse conditions brings mixed feelings. We hate the thought of doing it, but relish the opportunity to successfully test ourselves. Having a game plan and being prepared are the first, and most important, steps to ensure that success. ◄

LCdr. White is the CVW-1 LSO. His previous tours include QAO/WTO and LSO with VA-56 in USS *Midway* (CV-41), and LSO duties with VA-174 and VFA-125. He is a plankowner with VFA-106.

An expert is a man who has made all the mistakes which can be made, in a very narrow field.

Niels Bohr
Danish scientist

Ten Bad Ideas For Survival Around the Ship

By Lt. Tom Ganse

EXPERIENCE is the best teacher, and we all hope that we learn from our mistakes. The sad truth is that we probably forgot or ignored basic procedures to gain this valuable experience. Here are 10 examples of "survival by exception."

1. Assume everything will go as briefed in accordance with NATOPS and SOP.
2. Wait for a "power" call from the LSO. He won't let you get underpowered.
3. Trust the yellow shirts while you are taxiing on the bow at night.
4. Perform co-altitude rendezvous without having the other aircraft in sight.
5. Set your radar altimeter for minimum release altitude and ignore it when it goes off. You're only a few more seconds from a weapons solution.
6. Fly around the tanker pattern with your mask off.
7. Believe that CATCC controllers know where all traffic is and that they assume collision avoidance responsibility.
8. Ignore your flight instruments and fly by instinct.
9. Perform expeditious "fleet rendezvous" on moonless, horizonless nights.
10. Adamantly believe that basic procedures are for fledgling aviators. ◄

Lt. Ganse flew A-7s with VA-94. He is currently assigned to COMOPTEVFOR in Norfolk.

Next Time, Tell Me When We're Filming "Ben Hur"

. . . Something caught the corner of my eye, and I looked back to see a freighter about to run into our ship. It was coming toward me. . .

By LCdr. Pat LeBlanc

I HAD just checked on board my new F-4 squadron as a lieutenant junior grade. Our carrier soon pulled out of Yokosuka and headed for the Indian Ocean. My first treat was a day carrier requal. I hadn't flown field carrier landing practice or the real thing for six weeks. We were in a crunch with a shortage of pilots. Blue-water operations were only two weeks away.

I got a waiver to fly daytime only. Then they asked me to get qualified for night operations while near divert fields so that I would be a player when we reached the Indian Ocean. As a typical fighter pilot, when asked, "Are you ready?," I quickly replied, "I've been ready!"

I still couldn't understand the logic of sending me out to a carrier out of qual, as a nugget, into a blue-water environment. What the heck, if I didn't like doing crazy things, I wouldn't be flying fighters in the Navy. A couple of four-hour briefs with the LSOs, a handy waiver, and off I go. After five days in a row of day and night hops, I was considered qualified for blue-water ops.

I figured the CAG, the LSOs and my Skipper must have had a lot of faith in me, giving that much responsibility to a lieutenant junior grade. So off we go to the Indian Ocean for some blue-water time. But what's this? Since I was now night-qualified and the junior pilot in the squadron, I had to stand night alerts.

Luckily, I had a sharp RIO through all of this to check my six and keep me from harm's way. He was eager to see me do well. I learned very quickly the value of having a good crew member and the benefits of coordinating with him. After all, I had only been in the squadron three weeks and look what I had gone through.

I'll never forget that rainy night he took me up to the flight deck to do an alert turn on my first night alert. We didn't even bother putting on our flight gear since the weather was too bad for flying. We had 24-point tie-down chains on the aircraft, and our alert status didn't require immediate launch. Man-up and start-up were normal.

During my plane captain checks, I remember seeing a ship on the port side, ahead and a good distance away from the ship. Our aircraft was spotted second most forward on the angle-deck with its tail over the water.

"Are we doing UNREP?" I asked my RIO. He said no and in any event we wouldn't be doing underway replenishment on the port side if we were. I switched my attention again to the plane captain and gave signals for several more minutes.

Something caught the corner of my eye. It was a freighter about to run into our ship. It was coming toward me. My first indoctrination into night alerts, and I was going to be rammed. The freighter hit and my F-4 had one wing-fold broken off, two missile warheads damaged, a centerline fuel tank punctured and both engines FODed. The front canopy was knocked off its hinges, falling on my head and hands with some force. As I was about to exit the aircraft, my RIO shouted, "Shut the engines down!"

The knock from the canopy not only made me see stars, but also disconnected my communications cord and blocked my escape from the aircraft. With the damaged Phantom falling into the catwalk, I had no intention of staying in an aircraft that might be going into the deep blue sea. After throwing the canopy aside and reaching back into the cockpit to shut the engines down, I mounted the top of my damaged jet and walked rearward for the easiest way down. I was surprised to see the entire F-4 empennage had been severed and was lying on the catwalk.

I was escorted to sickbay to have my hand patched up. My RIO led fire teams in preventing what could have been a much worse disaster. Nearly 30 percent of the flight deck was covered with jet fuel from aircraft on the deck edge that were damaged in the collision.

Our peers tell us to expect the unexpected. I had no idea that I'd be "downed" on the deck by another ship. This incident made me more alert to the many dangers we face daily.

I'm now older, greyer and the squadron Safety Officer. Since my first month of fleet experience several years ago, I've learned to check six in more ways than one. ◄

LCdr. LeBlanc flies with VF-24, an F-14 squadron based at NAS Miramar, Calif.

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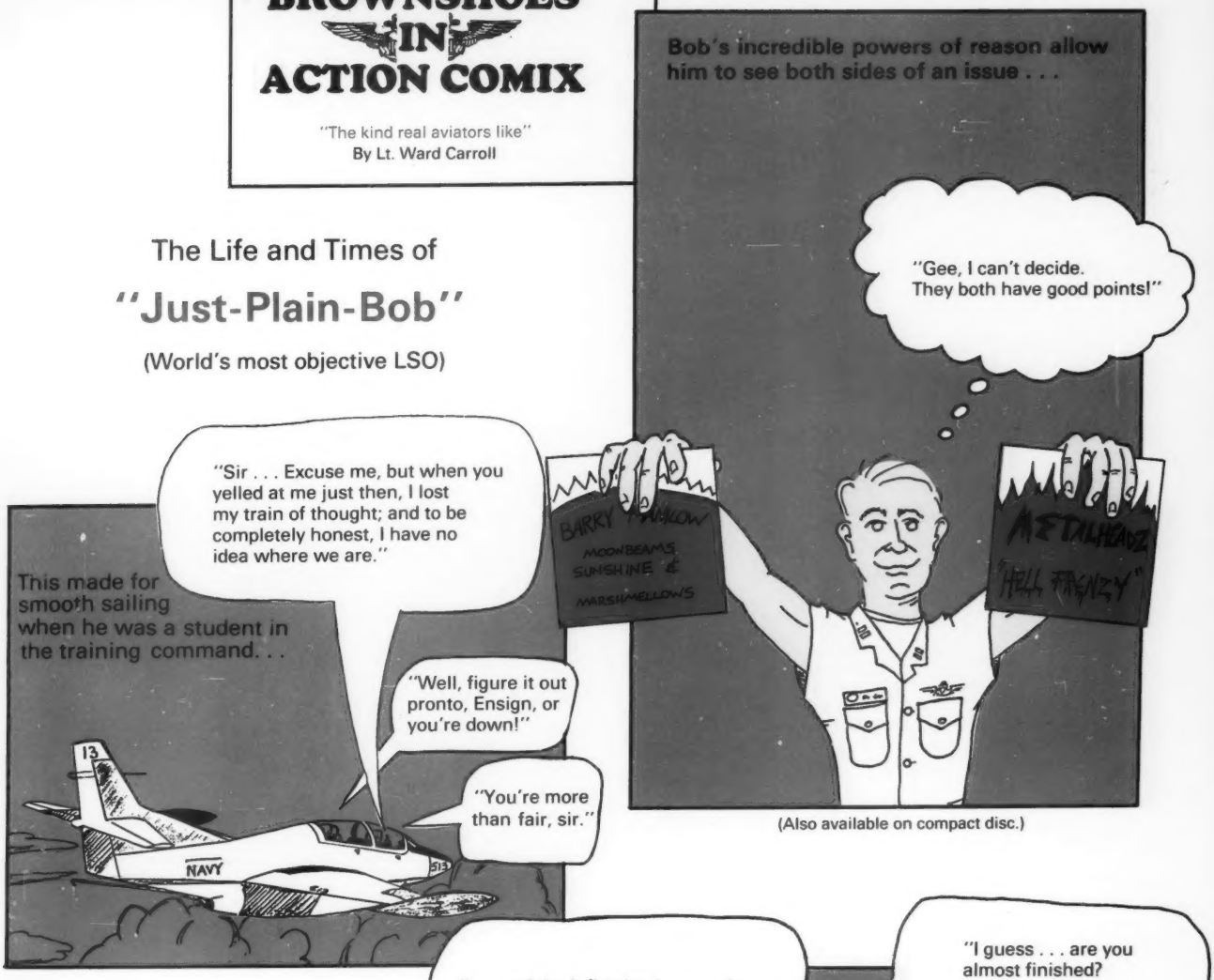
BROWNSHOES IN ACTION COMIX

"The kind real aviators like"
By Lt. Ward Carroll

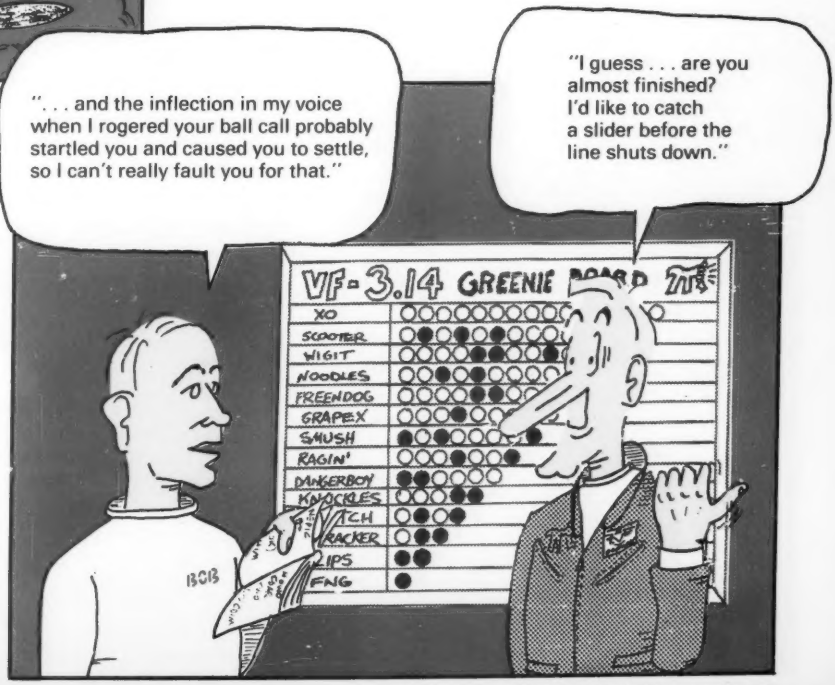
The Life and Times of "Just-Plain-Bob"

(World's most objective LSO)


Bob's incredible powers of reason allow him to see both sides of an issue . . .
"Gee, I can't decide. They both have good points!"
BARRY MANILOW
MOONBEAMS, SUNSHINE & MARSHMELLOWS
METALHEADZ
"HELL FRENZY"
"Sir . . . Excuse me, but when you yelled at me just then, I lost my train of thought; and to be completely honest, I have no idea where we are."
This made for smooth sailing when he was a student in the training command. . .
"Well, figure it out pronto, Ensign, or you're down!"
"You're more than fair, sir."
13
NAVY

(Also available on compact disc.)

As an LSO, Bob's quality inputs have made for exponential learning curves on the part of air wing pilots . . .


". . . and the inflection in my voice when I rogered your ball call probably startled you and caused you to settle, so I can't really fault you for that."
"I guess . . . are you almost finished? I'd like to catch a slider before the line shuts down."
VF-3.14 GREENIE BOARD
XO
SCOOTER
WIGIT
NOODLES
FREENDOG
GRAPEX
SHUSH
RAGIN'
DANGERBOY
KNUCKLES
RACKER
FNG
BOB

The best LSOs make black and white out of grey!

TECHNOLOGY AND SCIENCE
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LSOs . . . The trained eye never lies!

Courtesy of 20th Century-Fox with permission of Mrs. Lauretta Feldman